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Approved for use through 10/31/2002. OMB 0651-0032  
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PTO/SB/05 (08-00)

22386 U.S. PTO  
10/728886



# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	ZE008US
First Inventor	Kia Silverbrook
Title	A Micro-Electromechanical Fluid Ejection Device having Nozzle Chambers with Diverging Walls
Express Mail Label No.	

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

- ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
- ☐ Applicant claims small entity status.  
See 37 CFR 1.27.
- ☒ Specification [Total Pages 48]  
(preferred arrangement set forth below)
  - Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
- ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 15]
- Oath or Declaration [Total Pages 3]
  - ☒ Newly executed (original or copy)
  - ☐ Copy from a prior application (37 CFR 1.63 (d))  
(for continuation/divisional with Box 17 completed)
    - ☐ **DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
- ☐ Application Data Sheet. See 37 CFR 1.76

- ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
- Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - ☐ Computer Readable Form (CRF)
  - Specification Sequence Listing on:
    - ☐ CD-ROM or CD-R (2 copies); or
    - ☐ paper
  - ☐ Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

- ☒ Assignment Papers (cover sheet & document(s))
- ☐ 37 CFR 3.73(b) Statement (when there is an assignee) ☒ Power of Attorney
- ☐ English Translation Document (if applicable)
- ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
- ☐ Preliminary Amendment
- ☐ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
- ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
- ☐ Other: .....

17. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 10 / 303,291

Prior application information:

Examiner An H Do

Group / Art Unit: 2853

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 18. CORRESPONDENCE ADDRESS

☒ Customer Number or Bar Code Label

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or ☐ Correspondence address below

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Signature		Date	Nov mber 27, 2003

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

120803

16698 U.S. PTO

PTO/SB/17 (10-03)

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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ ) 850.00

**Complete if Known**

Application Number	
Filing Date	
First Named Inventor	Kia Silverbrook
Examiner Name	
Art Unit	
Attorney Docket No.	ZE008US

**METHOD OF PAYMENT (check all that apply)**☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☐ Deposit Account:Deposit Account Number  
Deposit Account Name

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments☐ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	770.00
1002 3 0	2002 1	Design filing fee	
1003 5 0	2003 265	Plant filing fee	
1004 7 0	2004 3 5	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1)			(\$ ) 770.00

**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims	Extra Claims	Fee from below	Fee Paid
10	-20** =	X	= 0
1	-3** =	X	= 0
Multiple Dependent			

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 8	2201 4	Independent claims in excess of 3
1203 2 0	2203 145	Multiple dependent claim, if not paid
1204 8	2204 4	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ ) 0

\*\*or number previously paid, if greater; For Reissues, see above

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for <i>ex parte</i> reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	80.00
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ ) 80.00

**SUBMITTED BY**

Name (Print/Type) KIA SILVERBROOK AND GREGORY JOHN McAVOY

Registration No. (Attorney/Agent)

(Complete if applicable)

Telephone 612 98186633

Signature

Date

November 27, 2003

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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December 4, 2003

Commissioner of Patents and Trademarks  
Washington DC 20231  
USA

Dear Sir

**53 New United States Patent Applications**  
**Assignee: Silverbrook Research Pty Ltd**

This letter accompanies 53 new patent applications.

**53 bank drafts** for the total amount of US\$51,520 are enclosed to cover filing and assignment fees for each of the 53 applications. Also attached is a list giving details of each application.

We look forward to receiving filing receipts in due course.

If you need to contact us in relation to the applications, please email my assistant, Kia Silverbrook at [Kia.Silverbrook@silverbrookresearch.com](mailto:Kia.Silverbrook@silverbrookresearch.com) or by fax to +61 2 9555 7762.

Yours faithfully

Kia Silverbrook  
Silverbrook Research Pty Ltd

	DOCKET NO.	TITLE	INVENTORS	AMOUNT US\$	PARENT NO
1	ZE017	Printhead assembly incorporating one or more printhead modules	Kia Silverbrook, Tobin Allen King	850.00	ART108
2	ZE018	Printhead assembly incorporating a channel member	Kia Silverbrook, Tobin Allen King	850.00	ART108
3	ZE019	Printhead assembly incorporating an elastomeric feed member	Kia Silverbrook, Tobin Allen King	850.00	ART108
4	ZE020	Printhead assembly incorporating micromoldings	Kia Silverbrook, Tobin Allen King	850.00	ART108
5	BAL70	A camera for printing manipulated images	Kia Silverbrook, Paul Lapstun, Simon Robert Walmsley	998.00	ART51
6	BAL71	A camera for printing on media provided on print roll	Kia Silverbrook, Paul Lapstun, Simon Robert Walmsley	1,142.00	ART51
7	BAL72	A camera for printing manipulated images on media	Kia Silverbrook, Paul Lapstun, Simon Robert Walmsley	1,070.00	ART51
8	BAL73	A camera and controlling processing system	Kia Silverbrook, Paul Lapstun, Simon Robert Walmsley	1,070.00	ART51
9	ZE009	A method of fabricating a fluid ejection device using a planarizing step	Kia Silverbrook	810.00	IJ46 Div. 2
10	ZE010	A micro-electromechanical fluid ejection device with control logic circuitry	Kia Silverbrook	810.00	IJ46 Div. 2
11	ZE011	A printhead configuration incorporating a nozzle arrangement layout	Kia Silverbrook	810.00	IJ46 Div. 2
12	ZE012	A method of fabricating a micro-electromechanical device having a laminated actuator	Kia Silverbrook	810.00	IJ46 Div. 2
13	ZF189	An image capture and processing device for a print on demand digital camera system	Kia Silverbrook	810.00	IR18
14	ZF190	A printhead assembly for a print on demand digital camera system	Kia Silverbrook	810.00	IR18
15	ZF191	A printhead re-capping assembly for a print on demand digital camera system	Kia Silverbrook	810.00	IR18
16	MTB05	Ink Jet printhead with circular cross section chamber	Kia Silverbrook	1,044.00	MJ40
17	MTB07	Ink jet printhead with amorphous ceramic chamber	Kia Silverbrook	1,116.00	MJ40
18	ZF132	Composite support beam for printhead assembly	Kia Silverbrook	810.00	MJ44
19	ZF133	Thermal expansion relief for printhead assembly	Kia Silverbrook	810.00	MJ44
20	ZF134	Thermal expansion compensation for printhead assembly	Kia Silverbrook	810.00	MJ44
21	ZE013	A micro-electromechanical fluid ejection device having a chamber that is volumetrically altered for fluid ejection	Kia Silverbrook	810.00	MJ95
22	ZE014	A micro-electromechanical fluid ejection device having a nozzle guard	Kia Silverbrook	810.00	MJ95
23	MTB01	Thermal ink jet printhead with short heater to nozzle aperture distance	Kia Silverbrook	1,422.00	MJT001
24	MTB012	Thermal ink jet printhead with low resistance electrodes for heaters	Kia Silverbrook	1,422.00	MJT001
25	MTB013	Thermal ink jet printhead with heater elements supported by electrodes	Kia Silverbrook	1,422.00	MJT001

26	MTB02	Very high efficiency thermal ink jet printhead	Kia Silverbrook, August John North, Gregory John McAvoy	1,502.00	MJT001
27	MTB03	Low voltage thermal ink jet printhead	Kia Silverbrook	1,422.00	MJT001
28	MTB04	Inkjet printhead with low mass displacement nozzle	Kia Silverbrook	1,422.00	MJT001
29	MTB06	Thermal ink jet printhead with bubble collapse point close to nozzle aperture	Kia Silverbrook	1,422.00	MJT001
30	MTB14	Heat dissipation within thermal ink jet printhead	Kia Silverbrook	1,422.00	MJT001
31	ZF184	Ink Distribution assembly	Kia Silverbrook	810.00	PAK12
32	ZG185	Printhead chassis assembly	Kia Silverbrook	810.00	PAK12
33	ZG186	Laminated distribution structure	Kia Silverbrook	810.00	PAK12
34	ZG112	Chips with wafer scale caps formed by molding	Kia Silverbrook	810.00	WSM01
35	ZG113	Two part mold for wafer scale caps	Kia Silverbrook	810.00	WSM01
36	ZG114	Wafer scale caps located by molding	Kia Silverbrook	810.00	WSM01
37	ZG115	Molded wafer scale cap array	Kia Silverbrook	810.00	WSM01
38	ZG116	Placement tool for wafer scale caps	Kia Silverbrook	810.00	WSM01
39	ZG117	Mold making method for wafer scale caps	Kia Silverbrook	810.00	WSM01
40	ZG118	Chip with molded cap array	Kia Silverbrook	810.00	WSM01
41	ZG119	Molded wafer scale cap	Kia Silverbrook	810.00	WSM01
42	ZF117	Thermoelastic inkjet actuator with heat conductive pathways	Kia Silverbrook, Gregory John McAvoy	850.00	YU185
43	ZE005	An ink jet printhead chip having an actuator mechanisms located about ejection ports	Kia Silverbrook, Gregory John McAvoy	850.00	YU195
44	ZE006	A method of fabricating an ink jet printhead chip having actuator mechanisms located about ejection ports	Kia Silverbrook, Gregory John McAvoy	850.00	YU195
45	ZE007	A micro-electromechanical fluid ejection device having actuator mechanisms located about ejection ports	Kia Silverbrook, Gregory John McAvoy	850.00	YU195
46	ZE008	A micro-electromechanical fluid ejection device having nozzle chambers with diverging walls	Kia Silverbrook, Gregory John McAvoy	850.00	YU195
47	ZG187	Page binder with air cushion and non-contact adhesive applicator	Kia Silverbrook	850.00	ZF107
48	ZG188	Page binder with adhesive applicator for gluing trailing edge of pages	Kia Silverbrook	850.00	ZF107
49	ZG189	Page binder with two part adhesive applicator	Kia Silverbrook	850.00	ZF107
50	MTB08	Inkjet printhead with ink supply passage to nozzle etched from opposing sides of wafer	Kia Silverbrook	1,170.00	ZF121

51	MTB09	Inkjet printhead with non-uniform width ink supply passage to nozzle	Kia Silverbrook	1,112.00	ZF121
52	MTB10	Inkjet printhead with ink chamber inlet etched into wafer	Kia Silverbrook	1,256.00	ZF121
53	MTB11	Inkjet printhead with ink supply passage formed from both sides of the wafer by overlapping etches	Kia Silverbrook	1,256.00	ZF121
56					
57				51,520.00	